

**Substitute Abstract**

Please replace the Abstract with the following substitute Abstract:

A rotary apparatus with an enclosure formed by a hollow curved housing along with two sleeves, with two vanes within the enclosure, where one vane is fitted on each sleeve and the space within the enclosure is partitioned into two segregated volumes by the vanes which can rotate along with the sleeve that the individual vane is fitted on, by use of the timing devices, couplings, brakes and shaft, resulting in a sequence of alternate, independent or simultaneous rotation and stopping of vanes that leads to increase and decrease of volume of the segregated spaces, in a fashion that results in a thermodynamic gas cycles with Variable Compression ratio.